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A SHORT
TREATISE
ON
CANINE MADNESS,

Particularly the BITE of

M A D D O G S:

Some CAUTIONS to prevent the Danger, and
REMEDIES for Injuries received thereby:

TOGETHER WITH THOSE OF
Other ENRAGED ANIMALS.

==
By a PHYSICIAN.
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L O N D O N:

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OF THE



ADVERTISEMENT.

THE original design of a publication on the subject contained in the following sheets, was to be distributed *gratis*, and confined to the fatal effects of CANINE MADNESS by the BITE of DOGS only.

But considering that many Persons were liable to, and actually suffered under, that worst of all disorders, it seemed necessary to insert an account of such remedies as have frequently been applied with success.

This consequently extended the limits of the original intention. That therefore being necessary, in order to make it more useful, several particular cases are mentioned of the dangerous consequences of wounds received from other enraged animals; which, although not so dreadful to the mind, are of great danger and inquietude to the body.

Another

Another reason for deviating from the design at first proposed, was, that papers distributed indiscriminately, seldom were sufficiently attended to, to have their desired effects; therefore, the addition made to it may be considered of some value, as they are related from the experience of the first practitioners, both the ancients and the moderns.

But whatever may be the construction put upon it, the author will have the pleasing satisfaction to know, that his principal motive for the undertaking arises from his love of Philanthropy, and explaining and pointing out some relief by application of remedies. This may be useful to a very great part of the people who are either not sufficiently learned, or have not an opportunity to make further and more satisfactory enquiries.

THE

T H E

HYDROPHOBIA, &c.

A DISEASE, taking its name from those afflicted with it, shewing an aversion to water or other liquors: but it is the opinion of some of our most eminent physicians (as well as some observations of my own) that this disorder is not always the constant attendant upon those afflicted with that most terrible of all disorders, CANINE MADNESS, as will appear from several cases related in the following sheets.

The HYDROPHOBIA is no part of the delirium with which persons afflicted with the above disorder is liable; but from persons in high fevers being thirsty and not being able to swallow liquids without much pain; which in time so much increases, that they dread the appearance of water, &c. especially when impressed upon them. This fever being of a nervous or spasmodic kind, all the nerves are drawn into cramps; particularly the

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muscles

muscles employed in deglutition are convulsed, their action is lost, and it is then impossible to get any thing down. To ask one in this condition to drink, would be to request of him to choak himself : and when he finds this to be so, he dreads the sight of liquors offered to him as much as he would immediate death by any other means.

The terrible effects of the poison from the bite of a mad dog, appear after so different a manner in different subjects, that the accounts given of them by authors being generally taken from single cases, are very different, and hardly consistent with one another. The main symptom, indeed, they all agree in ; that is, what they call the *HYDROPHOBIA*, or Dread of Water.

The wound occasioned by the bite of a mad dog differs not at all from that made by a common bite ; and it is usually a considerable time before any bad consequences of it appear. There are instances where those have been deferred to three, four, or six months, nay, Galen himself saw one case after a year * ; but the attack is generally within thirty or forty days, though very often sooner ; sometimes in fifteen or sixteen days, in young subjects.

* Comment. ii. in 1 *Prorrh.* Hippocrat.

The first approaches of the distemper generally discover themselves after this manner : A pain is felt in the part wounded, which by degrees spreads itself to the neighbouring parts ; a lassitude follows, with uneasiness in all the limbs ; then the patient grows pensive and sad, with disturbed and unquiet sleeps, complains of faintness and lowness of spirits, particularly of an oppression at his breast ; his pulse intermits, his nerves tremble, he has cold sweats, a great nausea, and sickness at the stomach, and loaths food ; and though he has an inward heat and thirst, and desires to drink, yet he swallows meat, but especially liquids, with great difficulty. These symptoms increase, and the next day, from the great uneasiness and pain, which he finds in swallowing, he conceives such an aversion to liquids, that at the first sight of them he falls into convulsions and agonies, and cannot get down the least drop of them. This Hydrophobia has always been accounted the surest sign and mark of the poison, by which it is distinguished from all other diseases, as not being observed, at least very rarely, in any other case whatsoever,

At this time a fever usually appears with a quick but low pulse, without the least sleep, a hoarse voice, a gathering of froth in the mouth, and spitting it out :

universal convulsions, particularly about the throat, and in the *musculi erectores penis*, whence a continued priapism is observed. During this tragical scene, which generally proves fatal in about two days, a delirium comes on, sometimes with most terrible symptoms of rage and fury, and attempts of doing all the mischief possible, even to the most beloved friends and relations : but more commonly without any furor, it is of the melancholy kind, and the patient resigns himself and prepares for death, warning those about him to take care of themselves, lest he should do them a mischief, and that they would no more trouble him. His breath growing shorter and shorter, he expires in convulsive fits.

Many of the ancients, as well as the moderns, have treated of this disease, but none more copiously than Cælius Aurelianus *.

It will afford great light towards the knowledge of the nature of this abstruse disease (Hydrophobia) to remark some odd appearances in the progress of it ; which, though with a little variation, discover themselves in a greater or lesser degree in all the unhappy patients.

* De morbis acutis, lib. iii.

It is common to them all that they can ill bear the impression of objects upon the senses. All feeling is painful. The slightest touch, or rubbing of the limbs, is painful. The least noise offensive; and the opening or shutting of a door affrights as if the house was falling. The eyes so ill bear the light, that even the sight of any thing that is white is intolerable. The common coolness of fresh air is disagreeable to the lungs; and the making of water gives uneasiness and grief. The aspect is dismal, either frightful with tokens of rage and fury; or lamentable with marks of mourning and despair. There is no sleep from the beginning of the fever to the end.

When the symptoms are maniacal, the strength of the muscles is prodigious; as for instance, in a case where a man was tied down on a bed with strong cords, which he broke all at once, with one effort, and immediately died paralytic, as if all the fibres of the body had been overstrained, and torn to pieces by their violent action.

In order to find out the cause of this dreadful train of events, we must take notice, that the *rabies* or madness in a dog, is the effect of a violent fever, therefore it is most common in hot weather, though sometimes intense cold may be the cause of it. That no
dog

dog ever sweats : from whence it follows, that when his blood is in a ferment, it cannot, as in other creatures, discharge itself upon the surface of the body ; and therefore must of necessity throw out a great many saline and active particles upon those parts, where there is the most constant and easy secretion, and such next to the miliary in the skin in us, are the salivial glands. For this reason much more spittle is separated in a dog when mad, than at any other time, and that very frothy, or impregnated with hot subtile parts.

The appearances whereby to know that a dog is mad, are, his neither eating or drinking, looking sad and fullen, running at any thing in his way, whether man or beast, known or unknown, with a murmuring noise but without barking, nodding as if he were overpowered with sleep, and endeavouring to hide himself. These are the symptoms according to the great Physician, Dr. Boerhaave, in the first stage of madness, when a bite (though dangerous) is less malignant than in the next stage ; when he begins to pant, hangs out his tongue to discharge a great quantity of froth from his mouth, which he keeps always open ; alternately walking slowly and running ; his eyes are dull and red, and full of tears, his tongue is of a leaden colour, he becomes faint

faint and weak, falling down and rising up, and attempting to fly at every thing, and then he becomes mad and furious; this stage seldom continues thirty hours, when death terminates the disease, and a bite received now is reckoned incurable. In the first stage the dog remembers and respects his master, but forgets him in the second stage.

Other symptoms of madness, are, the dog's being avoided by other dogs that smell him, their running away with horror, and the tone of his voice when he barks, which is hoarse and hollow. This disease is most common after long dry hot seasons; and such dogs as live upon putrid stinking carrion, without having sufficient water, are most liable to it.

That this delirium is sometimes maniacal, sometimes melancholy, is owing to the different temperament and constitution of the patient, inclined more to passions of one kind or the other: And it may not be improper in this place to mention the observations made by huntsmen themselves, who notice among their dogs two kinds of this disease, one of which they call the *biting madness*, the other the *sullen madness*. In short, this distemper is a fever of that kind, in which the nervous fluid is
more

more particularly affected, from the violent action of an extraneous fiery matter mixed with it.

It has sometimes happened that the effect of canine madness has appeared with all the other fatal symptoms usually attendant on it, without any appearance of the Hydrophobia (or dread of liquids) even to a fatal degree; and it has been related by a learned physician, that in Shropshire he saw three patients in one year, who at the ordinary time of about thirty or forty days after receiving the wound all fell into strong nervous disorders, a fever, delirium, oppression of the breath, palpitation of the heart, spasms, &c. and died on the third day; yet none of them, during this melancholy scene, had any difficulty of swallowing, or shewed any signs of a dread of liquids.

Nothing seems more wonderful than that the venom should as it were lie latent in the body so long a time before it discovers itself; but in different constitutions it will appear at different periods of times with various effects; nay, it may so happen, that the poisonous saliva being weak, and the constitution strong, no visible mischief may ensue till some accidental alteration in the body unluckily gives it an additional force, and therefore
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the calamitous symptoms may sometimes by the concurrence of extraordinary circumstances, be unexpectedly brought on in less time than any above-mentioned.

As for instance, a Soldier with a strong habit of body once a month was seized with a great anxiety, palpitation of the heart, and difficulty of breathing : he had been bitten by a mad dog about six weeks before he began to complain. By bleeding, cold bathing, the powder of lichen with pepper, and volatile medicines during the oppression, the fits were every month the less violent, and at last quite left him.

Another remarkable case, very well authenticated, is related in support of the opinion that the moon has an influence upon the human-body in such a disorder as is now under our consideration.—A gentlewoman in Yorkshire, of the age of thirty-two years, was bit by a mad dog in the fore-finger ; about a month after she had a pain in that part, which shot up to the shoulder, and was thought to be rheumatic, this pain returned every month, just a day before the full moon. After fifteen months she fell into the Hydrophobia, and died the third day*.

* See Dr. Mead's treatise concerning the influence of the sun and moon upon human-bodies.

After mentioning the fatal consequences of the above disorder, it is a great relief to a disturbed mind, to know that many applications and various means have been used with success, for the cure, and preventing the effects of this terrible poison. All authors agree, that, after the appearance of the Hydrophobia, the case is almost desperate ; and the reason is plain, from the description here given of it.

The first care to be taken is of the wounded part ; both ancient and modern physicians advise, where the place will admit of it, to enlarge the wound by incision ; to apply a cupping glass ; to burn it with a hot iron, and to keep a discharge from the ulcer, by drawing medicines for many days ; but some have thought this severity needless, the design of it being to draw out the poison ; but it having been proved that this immediately affects the nervous liquor, the mischief must have taken place before applications of this kind can be applied. Dr. Mead is therefore of opinion (because it may be of service to have a continued drain from the part) that it will be sufficient to enlarge the wound a little, and dress it with *Ung. Basilic. Nig.* adding to it a small quantity of *Mercur. Præcip. Rub.* as a digestive. It happens in most cases, that the wound being small, is healed up before the patient seeks for help.

Among

Among a great variety of internal applications, many of them ridiculous in the extreme, and deserve no notice, there are two or three recommended upon rational grounds, and upon good authorities: the first is the *cineres cancrorum flaviatitium*, ashes of the river craw fish.—These were prepared by burning the fish alive upon a copper plate, with a fire made of the twigs of the white briony; this Galen and others have assured no one ever made use of without success; and strengthened by such authorities, different specifics have been made, under the name of powders, &c. which have been applied sometimes with success.—If the foregoing receipt should be adopted, and prepared at home, it should be given in large quantities, viz. a good spoonful or two every day, for forty days together, either alone, or rather mixed with a small portion of *Gentian root* and *frankincense*. This is an absorbent and diuretic medicine. It matters not much whether the latter part of this management is complied with or not; but the former most certainly does; for the salt of the copper, which powerfully provokes urine, being mixed with the ashes, may very much exalt their virtue.

Another medicine is the *Spongia Cynorrhodi, vel Rosæ Sylvestris*, the sponge of the Dog Rose, which is so celebrated an antidote against this and other animal poisons, that a very famous author has written a whole treatise upon its virtues.

Besides these, the plant *Alyssum*, or *Madwort*, had its name given it by the ancients, from its great efficacy against this madness. To these may be added *garlick*, *agrimony*, and *oxylapatum*.

It is remarkable, that all these remedies are diuretics; the two first of the animal, the last of the vegetable kind. All insects abound with a diuretic salt; but as *Cantbarides* do so more than others, and being mentioned in this place as an antidote against the malady of which we are treating, it is necessary to point out the mode of preparation and application, which is, by infusing the flies in sour butter milk twenty-four hours, then drying them, and with the flour of lentils and wine, making them up in troches of a scruple weight, of which one is to be taken every day: by which means the learned Baccius assures us, that though the patient make bloody urine, yet that milk largely drank will abate that symptom, and that
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the HYDROPHOBIA will be happily prevented.—Another very respectable author (who collected all the medicines he could from the old physicians) affirms, that himself knew an old man who cured those who were bitten with common forrel only. He washed the wound with a decoction of this herb, laid it on as a cataplasm, and gave it in drink ; by this means, the patient made a great quantity of turbid urine.

From the above it appears, that the surest remedies in all ages against this venom, have been such as provoke a great discharge by urine. I have therefore thought proper to insert a receipe published in the Philosophical transactions *, and (with very little variation) in the Lond. Pharmacop. 1721, *verbatim*, the name *pulvis antilyssus*. It is a course easily to be pursued, and the effects are, preventing the fever for a long time after the bite, and constantly provoking this evacuation, which may secure the patient from danger. The method is this :

“ Let the patient be blooded at the arm, nine or
 “ ten ounces. Take of the herb, called in Latin,
 “ *Lichen cinereus terrestris*, in English, ash-coloured
 “ ground liver wort; cleaned, dried, and powdered,

* No. 237.

“ half

“ half an ounce, of black pepper powdered, two
 “ drachms. Mix these well together, and divide
 “ the powder into four doses, one of which must be
 “ taken every morning, fasting, for four mornings
 “ successively, in half a pint of cow's milk warm.
 “ After these four doses are taken, the patient must
 “ go into the cold bath, or a cold spring or river,
 “ every morning fasting for a month; he must be
 “ dipt all over, but not stay in (with his head above
 “ water) longer than half a minute, if the water be
 “ very cold. After this he must go in three times a
 “ week for a fortnight longer.”

To make this more effectual, Dr. Mead advises
 the use of the cold bath, which had never before his
 time been recommended. He observes that the
 ancients never applied dipping till the Hydrophobia
 appeared; and the common practice among us of
 sending the patient to the nearest salt water, as soon
 as may be, and there only to dip him all over twice
 or thrice, it is plain, cannot avail much to the pre-
 vention of a disease which will not appear till about a
 month after; and therefore it ought to be continued
 for so long a time if any advantage is to be expected
 from it. It is the pressure of the water upon the
 surface

surface of the body, and the constriction the cold makes upon the fibres of the skin and the small tubes which produce the good effect. The distension of the vessels by the fermenting humours is hereby repressed, and a flux of urine promoted for so many days, that all danger of the nervous fever, the consequence of the instilled poison, is quite over. If it should be thought that salt water, being heavier than fresh, will press more, this difference in two or three immersions only, can be but of small use, and is abundantly compensated by the greater coldness of the springs, than is felt in the sea.

Thus it appears that plunging into water may be effectual without the danger of drowning, which the ancients always practised with some degree of hazard. Celsus advises, if the patient cannot swim, to let him be kept under water, that he may swallow some of it, and then at times be lifted out of it: if he can swim, to hold him under by force, that he may drink, whether he will or not. This is drowning and recovering by turns.

However, the practice may seem severe, it has been practised in many countries with good effects.

Van

Van Helmont * strongly recommends it, and mentions many cases in support of his opinion, in fresh water as well as salt. Great care should be taken not to give over for dead persons drowned, but to use the means at present in use by the Humane Society.

It must be observed, that if submersion in this way be put in practice, it ought to be done upon the very first signs of the symptom, before the fever is come to its height, for when it is so, there will not be natural strength enough to overcome the shock.

In dangerous cases like the foregoing such experiments are rather permitted than enjoined by the physician; though it is certain that cures more dangerous than this are every day directed, but generally in cases where it cannot be known whether the patient dies by the remedy or the disease. In such situations every means ought to be made use of that has the appearances by former practice of giving relief, and there is more humanity in such proceeding than the horrid idea of stifling between two beds the miserable objects of the disorder; but which is practised in a neighbouring country, and has sometimes been done in our own.

In order to prove the action of cold water upon the body, by pressure and constriction, Dr. Willis relates a very remarkable story of a lusty young woman, who, having been raving mad, seven or eight days, was by his order carried abroad at midnight, and thrown naked into a river, where she swam about without help for more than a quarter of an hour, and taken out was put to bed, fell into a sleep and large sweats, and recovered without the help of any other remedy.

Physicians, who are most skilled in maladies of this nature, find by daily experience, that experiments of a similar kind with the above have a very considerable share, not only in recovering their patients, but also preventing a relapse.

In such dangerous cases nothing should be omitted, be the case ever so bad, because that may succeed in one case which has not in one hundred: and this opinion is strengthened by the learned Boerhaave, who mentions two very remarkable cases. If any relief can at this time be given, plentiful bleeding is recommended, before the fibres of the membranes and vessels have lost their natural force by convulsions;

nitrous medicines, and plentiful diluting with cooling sub-acid liquors.

From what has been shewn in the foregoing account of some cases, it appears that they had periodical returns of the disorder; and to those who have made themselves any ways conversant by information, of the celestial bodies (particularly the sun and moon) upon the human frame, it will not appear surprising. It was the general opinion of the ancient physicians, that some diseases were entirely owing to that influence; and that the proxysms and periods of several of them are regulated by the action of the moon in particular.

Of this class of diseases, none seem more remarkable than the epilepsy (or falling sickness) which in some persons constantly return every new and full moon. But as our present intention is only to treat on manical diseases, and the usual remedies applied for relief, it might be improper to vary from the subject, which in another place it might not be so; to shew the causes and effects of delirium, although not brought on by injuries received in the manner here treated upon.

OF THE

V I P E R.

THE VIPER is an animal of the SERPENT kind, famed not only for the exceeding venomousness of its bite (which is one of the most dangerous poisons in the animal kingdom) but also for the great usefulness of its flesh in medicine.

The viper has always been so remarkable for its venom, that the ancients considered it an emblem of what is hurtful and destructive to mankind: nay, they were very commonly thought to be sent as executioners of divine vengeance for enormous crimes, which had escaped the common course of justice. A remarkable instance of such an opinion as this we have in the history of St. Paul*, whom the people of Malta concluded to be a murderer, by the viper fastening upon his hand; but when he, without any

* Act Apost. chap. xxviii

harm, shook the animal into the fire, instead of having his hand inflamed, or falling down dead, they instantly imagined him to be a god, or stand in a near relation to them, who could thus command the messengers of their vengeance, and counteract the effects of such powerful agents.

On the contrary, so different are the opinions of men, that the Ægyptians held the serpent as a sacred animal : the idolatry is alluded to by Moses* ; and in mythology it was a very common symbol of the sun, where he is represented biting his tail, and with his body formed into a circle, in order to indicate that luminary ; and under this form it was an emblem of time and eternity. Wherever the Amonians founded any place of worship, and introduced their rites, there was generally some story of a serpent. Pausanius observes that the Arabians forbore to offer any violence to the vipers that were found near the balsam tree, as reputed them holy ; the same superstition prevails still among these people. A similar opinion is prevalent in some part of the East Indies : the king of Callicut causes cottages to be set up for serpents to keep them from rain†, and makes it death

* Lev. xx. 27.

† Mead's Essay, &c.

to any that shall hurt one of them ; thinking them to be heavenly spirits, because they can so suddenly kill men.

As this is a venomous reptile of our own country, it may not be improper to give a particular description of its size, colour, nature of its subsistence, &c. in order the better to judge of the certainty of any injury received from them : it is usually two feet in length ; a dirty yellow colour, the female rather deeper ; its back is marked the whole length with a series of black spots, touching each other at the points ; the sides with triangular ones ; the belly entirely black, and covered with long black scales, the tail (about a fifth part of the body) terminates in a sharp point. There is a variety, but one in particular, called by Petiver, the *vipera anglica nigricans*, which is wholly black, but even in this the rhombodial marks are very conspicuous, being of a deeper and more glossy hue than the rest. The head of the viper is inflated, which distinguishes it from the common snake ; the tongue is forked ; the teeth, which are sixteen in each jaw, small and immoveable, besides the four canine teeth, which are placed two on each side the upper jaw, and are the instruments
of

of poison ; it creeps but slowly, and never leaps like other serpents ; though it is nimble enough to bite when provoked.

They are found in many parts of this island ; but the dry, stony, and, in particular, the chalky countries, abound with them. They are said to swarm in many of the Hebridies, or Scots islands.

It has been asserted that the viper feeds on herbs, which if it should it is plain that it is not its only diet, as there are frequently found in its stomach, frogs, toads, lizards, mice, beetles, moles, small birds, and the like ; many of which are often found whole, although it is surprising to conceive how they were swallowed, since they are often three times as thick as the whole neck of the serpent.

They are capable of supporting very long abstinence ; some of them have been kept in a box six months without food, and yet with unabated vivacity. They feed only for a small part of the year, but never during their confinement, except the females with young. The poison decreases in proportion to the
duration

duration of their confinement ; and the virtues of its flesh are at the same time considerably lessened.

The symptoms which follow upon the bite of a viper, when it fastens either one or both of its greater teeth, in any part of the body, are an acute pain in the place wounded, with a swelling at first red, but afterwards livid, which by degrees spreads farther to the neighbouring parts ; with great faintness, and a quick, though low, and sometimes interrupted pulse, great sickness at the stomach, with bilious, convulsive vomitings, cold sweats, &c. and if the cure be not speedy, death itself, unless the strength of nature prove sufficient to overcome these disorders ; and in that case the swelling continues for some time inflamed, and in some instances more considerably upon the abating of the other symptoms than at the beginning. Often from the small wound runs a sanious liquor, and little pustulas are raised about it : the colour of the whole skin in less than an hour is changed yellow, as if the patient had the jaundice.

These symptoms (making allowance for the season of the year with respect to heat, greater or less rage of the animal, size and depth of the wound, &c.)

usually

usually discover themselves much after the same manner in all, unless the bite happen not to be accompanied with the effusion of that liquor which is the main instrument, and cause of this violent and shocking disturbance.

Dr. Mead, in his ingenious Treatise, has shewn the manner and use of this liquor to the animal ; and asserts, that to it, it owes its preservation, and without it, this creature could not subsist : for vipers live chiefly upon frogs, toads, mice, moles, and the like animals, which they do not chew, but swallow down whole ; in which manner they lie in the stomach, &c. which is capable of great distention : till by the salival juices of those parts, they are gradually dissolved into a fluid substance, fit for the nourishment of their bodies, and is the work of many days. This is the principal reason, among others, why these creatures can live so long without taking any fresh food.

This venomous juice itself is of so inconsiderable a quantity, that one drop does the execution ; this has been proved by trials upon several animals : but
Dr.

Dr. Mead went much further, by examining the texture and make of the liquor itself.

But for the remedy : it was the practice by a people in Africa, called Pfylli (where serpents abound) to apply their mouth to the wound, and suck out the venom, which induced some to think, they had something in their constitution so contrary to poison, that no venomous creature would touch them : but Celsus has wisely observed, that these Pfylli had no particular skill in this management, but boldness, confirmed by use ; for the poison of the serpent, like some other poisons, are not hurtful in the mouth, but in a wound : this opinion is supported by Aristotle, Pliny, &c.

Dr. Mead in his Treatise, recommends the foregoing practice, and relates one particular case which happened in London, of a man that was bit on one of his fingers by a rattle-snake just brought from Virginia : as the poison of this snake is more quick and deadly than any other that we know, this application may prove an effectual remedy against the bite of smaller vipers, and all other creatures of this kind.

If this remedy should be adopted, the first thing to be done upon the bite of a viper of any kind, is, that the patient should immediately suck the wound himself, if he can come at it: if he cannot, another person should do this good office for him. Whoever does it, ought (to prevent any inflammation of the lips and tongue from the heat of the poison) to wash his mouth well beforehand with warm oil, and hold some of this in the mouth while the suction is performing: after this is over, it will be proper to give a vomit; a dose of *rad. ipecacuan.* encouraged in the working with oil and warm water, may be sufficient.

When the wound has been well sucked, it should be afterwards rubbed with fallad oil; a poultice of bread and milk, softened with fallad oil, should likewise be applied to it, and the patient should drink freely of vinegar whey, or water gruel with vinegar in it, to make him sweat. Vinegar is, indeed, one of the best medicines which can be used in any kind of poison, and ought to be taken very liberally. This practice is said to be sufficient to counteract the bite of any of the poisonous animals of this country.

This

This practice is used by the Indians in America for the cure of the bite of a rattle-snake, and taking immediately a large decoction of the Seneca rattle-snake root (which vomits plentifully) and laying to the part the same root chewed.

It is well known that the nervous fluid is endowed with great activity and force, and therefore capable of receiving various alterations from other bodies, especially such as consist likewise of very subtile and powerful particles; and all poisons are known to be of that kind.

The use of external applications is therefore very uncertain; since it cannot prevent the sudden communication of the poison to the nerves (for the bite of a rattle-snake killed a dog in less than a quarter of a minute) together with the nature of the symptoms, entirely nervous, in some degree confirms the opinion.

Notwithstanding which, it is proper here to mention that the viper-catchers have a specific, in which they can so far confide as not to be afraid of being bitten: this specific they keep as a great secret. This secret Dr. Mead endeavoured to explore, and

upon strict enquiry found it to be no other than the *axungia viperina* (or fat) of the viper, presently rubbed into the wound *; in order to prove which, he enraged a viper to bite a young dog in the nose: both the teeth were struck deep in; he howled bitterly, and the part began to swell: upon applying it immediately to the part bitten, he found the creature well the next day.

But even this is not to be relied upon, it is safest if the patient feels any sickness, faintness, or any of the nervous symptoms before described, to have him put in bed, and a sweat promoted by cordial medicines, particularly the *conf. ralegb.* and the salt of vipers, or, in want of this, salt of hartshorn, given in warm wine.

It having been supposed that the bite of a viper might be cured by the application of olive oil (sallad oil) alone, and a viper-catcher in England having suffered himself to be bitten by one of these creatures, and having recovered after many dangerous symptoms, and the cure being attributed to the oil alone (though

* Which consisting of clammy, viscid, penetrating and active parts, sheaths the salts of the virus.

other medicines were given him internally) caused several experiments to be made at Dresden and Paris, all of which by the use of the oil alone proved ineffectual.

The poison of the viper is only noxious when immediately conveyed into the blood. Nor is it mortal to eat the flesh of creatures killed by vipers, or to drink the wine in which they have been drowned, or to suck the parts they have wounded. On the contrary, Sig. Redi says, sucking the wound is a sovereign remedy against the bite of vipers.

In support of internal applications, Dr. Brookes mentions the following remedy, which was the invention of a negro, who, for the discovery, obtained his freedom, and a pension of one hundred pounds *per annum*, from the General Assembly of Carolina, and has been found effectual for the bite of the rattlesnake. The prescription is as follows : take of the roots of plaintain and horehound in summer, roots and branches together, a sufficient quantity : bruise them in a mortar, and squeeze out the juice, of which give, as soon as possible, one large spoonful ; if the patient be swelled, force it down his throat. This
generally

generally will cure : but if he finds no relief an hour after, give him another spoonful, which is said never to fail. If the roots are dried, they must be moistened with a little water. To the wound may be applied a leaf of good tobacco moistened with rum.

It having been mentioned in the beginning of this Essay, that vipers are of great and many uses in medicine, it may be very proper to acquaint those whose situation in life, from their necessary vocations has not permitted them to make enquiries what the advantages are which is derived from this animal.

First,

Most authors agree that there is no part, humour, or excrement, not even the gall itself, of a viper, but may be swallowed without harm ; accordingly the ancients, and, as several authors assure us, the Indians, as well as many other people at this day, both of the East and West, eat them as we do eels.

Vipers flesh, either roasted or boiled, the physicians have prescribed as an excellent restorative ; and it has been particularly recommended in the elephantiasis, incurable consumptions, &c. likewise to drink
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the *vinum viperum*, i. e. wine wherein they have long been infused.

Vipers flesh, indeed, appears to be very nutritious, and therefore an useful restorative in some kinds of weaknesses and emaciated habits. The form in which they are used to the best advantage, is that of broth, or *jus viperinum*, of which an excellent preparation is directed by the London College*.

There are many other preparations of the flesh of this animal which have been found serviceable in medicine, but too many to be enumerated in this place.

It has before been mentioned that Vipers are capable of supporting a very long abstinence; they will not feed while in confinement, except a female with

* R Take of

Dry Vipers, two ounces

Mountain, three pints.

Macerate with a gentle heat for a week, and then strain off the wine.

Such Vipers as are moderately and newly dried, appear to be the most eligible.

young

young, but such a one did. As a proof of the observation, a Viper catcher who had more than sixty living Vipers in a chest, put a living mouse in among them; there happened to be one female big with young among these, none of the others at all regarded the mouse, but she raised up her head a little, and looked furiously at it. The mouse was terrified, and stood still for a considerable time, though the Viper continued rolled up in a spiral, only raising up its head and looking at it, and vibrating its tongue; the mouse at length recovered of its fright, and began to move, but without running away, only walking in a terrified manner round and round the Viper, and often squeaking; at length she came before the head of the creature, which was still raised, and the mouth open. The mouse, after some time, went up to it, and crept into its mouth, where she was gradually swallowed without the Viper's altering its posture.

OF THE
TARANTULA.

THE TARANTULA is a spider of Apulia, the hottest part of Italy, lying eastward ; of the octonocular kind, having eight eyes, eight legs, and spins webs like other spiders.

The symptoms from the bite of the Tarantula are so very odd and surprising, that the truth of the facts has been doubted by many. There may be some reason for this suspicion, as the injury received is commonly by poor people, who work in the fields in hot weather ; and they often receive charity upon it : but as an evidence to prove the point, it cannot be supposed that a disease would be counterfeited that never had any foundation in nature. Besides, several authors have written long dissertations upon the subject, particularly Baglivi, a physician, and a native of the country. In which writings are not only answered

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the objections of those who deny the whole thing, but several instances are given of persons who had suffered this way ; some of whom were of great families, and so far from being dissemblers, would, at any rate, to avoid shame, have concealed the misfortune which had befallen them.

In the summer months, especially when the heats are greatest, as in the dog-days, the Tarantula creeping among the corn in the fields, bites the mowers and passengers : in the winter it lurks in holes, is scarcely seen, and if it does bite then, it is not venomous : but in hot weather, although the pain of its bite is at first no greater than what is caused by the sting of a bee, yet the part quickly after is discoloured with a livid, black, or yellowish circle, and raised to an inflamed swelling. The patient within a few hours is seized with a violent sickness, difficulty of breathing, universal faintness, and sometimes trembling, and weakness of the head ; being asked the cause, he makes no reply ; or complaining, points to his breast.

During this melancholy state, all the usual medicines for expelling poison are of no use ; the patient growing by degrees more stupid, and strangely
timorous

timorous, in a short time expires, unless music be called to his assistance, which alone, without the help of medicine, performs the cure.

At the first sound of the music (although the sick lie, as it were, in an apoplectic fit) they begin by degrees to move their hands and feet ; till at last they get up, and go to dancing with wonderful vigour, at first for three or four hours : then they are put to bed, refreshed from their sweating for a short time, and repeat the same exercise, perceiving no weariness or weakness from it ; but professing they grow stronger and more nimble, the more they dance.

This exercise is continued for three or four days, twelve hours each day, by which time they are generally freed from all symptoms, which nevertheless generally attack them about the same time next year ; and if care is not taken to prevent this relapse, by music, they fall into other disorders, which in time prove incurable.

Some are more pleased with one sort of instruments than another ; but it is certain they all require the

quickest and brikeft tunes, and are never moved by a flow, dull harmony.

While the parties affected by this phrenfy are dancing, they lofe in a manner the ufe of all their fenfes, and do many ridiculous and foolifh tricks, and cannot bear the fight of any thing black, fo that if any by-ftander appear in that colour, they muft immediately withdraw.

It muft be noticed, that where this diforder is moft prevalent, is the hotteft part of all Italy, where they have very little rain to temper the heats ; fo that the inhabitants breathe the air, as it were, out of a fiery furnace ; and confequently liable to many diforders not ufual here : for what in other countries is but a light melancholy, arifes here to a dilirium.

From what has been faid, it fufficiently appears, that thofe who have been bitten by the Tarantula become dilirious. In order therefore to account for the fymptoms they fuffer, it may not be improper to fay fomething concerning this dilirium ; which the ingenious and learned Dr. Mead has been very particular

cular in explaining, therefore it cannot be given better than in his own words :

“ Such is the constitution of the human economy,
 “ that as, upon the impression of outward objects
 “ made upon the organs, and by the fluid of the
 “ nerves conveyed to the common sensory, different
 “ species are excited there, and represented to the
 “ mind ; so likewise upon this representation, at the
 “ command of the mind, part of the same fluid is
 “ determined into the muscles, and, together with
 “ the arterial blood there, performs all the variety of
 “ voluntary motions and actions.

“ This order has been always so constant in us,
 “ that at length by a kind of natural habitude, without
 “ the intervention of the reasoning faculty, representations made to the mind immediately and necessarily produce suitable motions in the bodily organs.
 “ When therefore these representations are irregular,
 “ the actions consequent to them must necessarily be
 “ so too.

“ This being premised, it may perhaps be probably
 “ said, that a delirium is the representation and various

" rious composition of several species to the mind,
 " without any order or coherence ; together, at least
 " most commonly, with irregular, or, as it were,
 " undesign'd motions of the body : that is, such a
 " wandering and irregular motion of the nervous
 " fluid, whereby several objects are represented to
 " the mind, and upon this representation divers
 " operations performed by the body ; though those
 " objects are not impressed upon the organs, nor
 " those operations or motions deliberately commanded
 " by the soul.

" The mind indeed is the first principle of all mus-
 " cular motion : but in such cases as these, its
 " promptitude to action or habit being so great, it is
 " in a manner surpris'd, and cannot recover itself,
 " after the spirits are with violent force determin'd
 " pursuant to the representation of the species. For,
 " as in the former state of things, a man is said to act
 " onally, so this latter case is called a perturbation of
 " mind, that is, a delirium ; though it is very ma-
 " nifest, that in reality the defect is not in the rational,
 " but corporeal part : such species being really
 " presented to the mind, upon which, by the order

" of

“ of our constitution, such motions ought to follow
 “ in the body.

“ Thus, for instance, if the liquor of the nerves
 “ is, without the presence of any thing hurtful, put
 “ into a motion like unto that which a painful impres-
 “ sion makes in it, the same bodily actions must
 “ ensue, as proceed from fear, anger, or the like
 “ passion, determining the spirits towards the mus-
 “ cular parts. And a by-stander, who sees no reason
 “ for such a representation made to the mind, will
 “ presently conclude, that the person thus acting acts
 “ without or beside his reason, that is, is delirious ;
 “ especially if the hurry and confusion of the spirits
 “ be such, that not only one, but several different
 “ species be at the same time presented to the mind :
 “ for a man in this case may act the part of one
 “ joyful, angry, timorous, or the like, without any
 “ appearing reason, and all this almost in the same
 “ moment of time.

“ In one word, deliria are the dreams of those who
 “ are awake. And as these in us sleeping are infinitely
 “ various and wonderfully compounded, and all from
 “ the same common cause, diversely pressing the
 “ orifices

“ orifices of the nerves, and thus making different
 “ repercussions of their fluid; and as we all know
 “ that, in this confusion of representations to the
 “ mind, there hereupon follow (though the body
 “ seem now in perfect repose) such motions in the
 “ organs, as are usually the effect of the arbitrary
 “ determination of the spirits thither; so we are now
 “ to enquire, what alteration of the body, made by
 “ this venom, can be the occasion of this disorder
 “ and tumult in the nervous fluid, which excites in
 “ the party infected such surprising, and almost con-
 “ tradictory representations.”

Most of the symptoms of those who are bitten by
 the Tarantula, are at first (before they rise to a deli-
 rium) plainly the same with those which the bite of a
 Viper induces. It pierces the flesh with its hooked
 forceps, and instills a liquid venom into the wound.
 This, as in the case of other poisons, puts the nervous
 liquor into a ferment; a fever ensues; the secretion
 of this fluid in the brain, and consequently its deri-
 vation into the organs, is irregular; the impression of
 outward objects upon the spirits so inflamed affect too
 sensibly; nay, without the action of these in such a
 disturbed

disturbed state of the economy, species or images are presented to the mind, which produce suitable, that is, irregular motions in the body.

These representations and actions will generally be according to the temperament of the patient; and the spirits will be hurried to those parts, to which, in time of health they have been most frequently determined.

As to the cure, which seems almost ridiculous, it must be observed the patients have no inclination to dance, till they hear the music; and the benefit derived from it, is, the continued motions of the limbs produce large sweats, which, carrying off the inflammatory particles, abate the fever raised in the animal spirits.

The use and practice of music in medicinal purposes is of ancient date; and it is plain from the history of King Saul, that it was practised in his time, he being at times seized with fits of madness, was cured this way*; besides the authorities of many ancient Physicians and others.

* 1 Sam. Chap. xvi.

Notwithstanding this useful power of music, I shall conclude this essay with one remarkable instance of its hurtful effects upon a brute, well authenticated: A player upon a fiddle having frequently observed that a dog in the room was always so affected by a particular note, as to howl, and shew great uneasiness at it, one day, for experiment's sake, continued to strike the same note so long, that the sensible animal fell into convulsions and died.

F I N I S.



